LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
S. McLandrich	12-6-07	12-10-07	N2120713.086 / E5996880.467 (NAD83)	MPTSB-R3
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Gregg Drilling and Testing, Inc.			Offset 70ft L Sta 56+68 SB Alignment	12.906 ft (NAVD88)
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Mud Rotary			Failing 1500	5 in.
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
MC (2.4"), SPT (1.4"), Grab, Shelby (2.87"), Pitcher (2.87")			Automatic, 140 lbs., 30-inch drop	72.8%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
Neat Cement Grout backfill				146 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		Poorly graded SAND with CLAY and GRAVEL (SP-SC), loose, dark brown, dry, SAND is fine, GRAVEL is angular, with clumps of CLAY. [FILL]		S1										
10.91	2		Grades moist.												
	3				S2	3 4 7	11	100		18	126				
8.91	4		Poorly graded SAND (SP), loose, dark yellowish brown, moist, SAND is fine.		S3	5 4 6	10	89							
6.91	6														
	7		7.5', wood pieces and plant material.												
4.91	8		Fat CLAY (CH), soft, dark brown, wet, with some organic odor. [BAY MUD]		U4		50 psi	94							
2.91	10		CLAYEY SAND (SC), dark bluish gray, wet, fine, with lenses of SANDY CLAY and decayed vegetation. [MARINE SAND]												
0.91	12		Fat CLAY (CH), found in drill cuttings. [BAY MUD]												
	13		Poorly graded SAND (SP), dark bluish gray, wet, fine, with trace fines. [MARINE SAND]		U5		75 psi	100							
-1.09	14		Poorly graded SAND (SP), medium dense, light yellowish brown, wet, fine, with trace fines. [COLMA SAND]												
-3.09	16														
	17														
-5.09	18		Grades with iron-oxide mottling and with black specks.		S6	12 22 23	45	100							
	19		Poorly graded SAND with CLAY (SP-SC), medium dense, light yellowish brown, moist, SAND is fine with iron-oxide mottling.		S7	7 18 26	44	100							
-7.09	20		Grades less CLAY content and grades dense.												
	21														
-9.09	22		Grades yellowish brown, wet.												
	23				S8	18 36 44	80	100							
-11.09	24		Grades very dense.		S9		54	100		22.9 23.2	128.9 128	DS = 1.332			PA
	25														

(continued)

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	25		Poorly graded SAND with CLAY (SP-SC), medium dense, light yellowish brown, moist, SAND is fine with iron-oxide mottling.			6 22 32				22	129.8	DS = 1.92 DS = 2.604			
-13.09	26														
	27														
-15.09	28		Poorly graded SAND with SILT (SP-SM), very dense, dark yellowish brown, wet, SAND is fine with iron-oxide staining.		S10	22 50/6"	50/6"	100							
	29				S11	18 25 32	57	100							
-17.09	30														
	31														
-19.09	32														
	33				U12		125 psi	63							
-21.09	34									23.2	126.3				PA, CU
	35														
-23.09	36														
	37														
-25.09	38				S13	20 31 50/5"	81/11"	100							
	39				S14	13 30 42	72	100							
-27.09	40														
	41														
-29.09	42		Grades olive brown.												
	43				S15	32 50/4"	50/4"	100							
-31.09	44				S16	18 32 45	77	100							
	45														
-33.09	46														
	47														
-35.09	48				S17	30 35 50/5"	85/11"	100							
	49				S18	15 35 33	68	100							
-37.09	50														
	51														
-39.09	52														52', piece of organic material found in cuttings
	53		CLAYEY SAND (SC), very dense, dark yellowish brown, moist to wet, fine, stratified, with iron-oxide partings which appear to be vertical.		S19	15 33 49	82	100							
-41.09	54									18.9	136.6				PA
	55				S20		56	100							

(continued)

Department of Transportation
Division of Engineering Services
Geotechnical Services

REPORT TITLE				HOLE ID
BORING RECORD				MPTSB-R3
DIST.	COUNTY	ROUTE	POSTMILE	EA
4	S.F.	101	8.3/9.4	163701
PROJECT OR BRIDGE NAME				
Doyle Drive Replacement Project				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
34-0163L	T. Carroll		11-3-08	2 of 6

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY_CALTRANS FORMAT.GLB 11/3/08

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	55		CLAYEY SAND (SC), very dense, dark yellowish brown, moist to wet, fine, stratified, with iron-oxide partings which appear to be vertical.			14 24 32									
-43.09	56														
	57														
-45.09	58		Poorly graded SAND (SP), very dense, dark yellowish brown, wet, fine, with iron-oxide mottling. Grades with trace fines.		S21	43 50/4"	50/4"	100							
	59				S22	21 38 50/ 5.5"	88/ 11.5"	100							
-47.09	60														
	61														
-49.09	62														
	63				S23	27 50/6"	50/6"	100							
-51.09	64				S24	23 33 42	75	100							
	65														
-53.09	66														
	67		Grades dense, bluish gray.												Gray clayey sand with organic materials in drill cuttings
-55.09	68				U25		100 psi	28		21.7	129.2	UU = 0.23			PA
	69														
-57.09	70														
	71														
-59.09	72														72', cuttings are very clayey
	73		Poorly graded SAND with CLAY (SP-SC), dense, bluish gray, moist, fine, with pieces of GRAVEL, and with black specks, organic odor detected.		S26	8 23 50	73	100							
-61.09	74		CLAYEY SAND (SC), dense, bluish gray, moist, fine.		S27	13 20 20	40	100							
	75														
-63.09	76		Lean CLAY (CL), very stiff, greenish gray, moist. [OLD BAY CLAY]												
	77														Piston did not shoot; tube came back broken - too stiff
-65.09	78				U28		100 psi	88				PP = 1.13			
	79									30.6 23.1 18.4	115.6 123.5	UU = 0.34			PI, LL, C
-67.09	80		79.8', CLAY is horizontally fissured with very dark gray lenses of fine SAND up to 1/4" thick, with pockets of light olive gray hard lean CLAY up to 1/2" diameter.												
	81														
-69.09	82														
	83		Grades with up to 3/4" thick very dark gray lenses of fine SAND.		U29		100 psi	97							
-71.09	84						150								
	85		CLAYEY SAND (SC), bluish gray, wet, fine.									PP =			

(continued)

Department of Transportation
Division of Engineering Services
Geotechnical Services

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4	S.F.	101	8.3/9.4	163701
PROJECT OR BRIDGE NAME				
Doyle Drive Replacement Project				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
34-0163L	T. Carroll		11-3-08	3 of 6

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY_CALTRANS FORMAT.GLB 11/3/08

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	85		CLAYEY SAND (SC), bluish gray, wet, fine.				psi					>2.25			
-73.09	86														
	87		Fat CLAY (CH), very stiff, bluish gray, moist.												
-75.09	88				U30		175 psi	91				PP = 1.35			
	89									36.8	115.4				PI, LL, C
-77.09	90														
	91				S31	2 4 7	11	100							
-79.09	92														
	93		Lean CLAY (CL), very stiff, bluish gray, moist.		U32		150 psi	91							
-81.09	94											PP = 1.40			
	95														
-83.09	96														
	97														
-85.09	98		Fat CLAY (CH), very stiff, bluish gray, moist.		U33		100 psi	100							
	99											PP = 1.40			
-87.09	100														
	101														
-89.09	102														
	103				U34		100 psi	100							
-91.09	104														
	105		Grades with increased SAND content with lenses of CLAYEY SAND.									PP = 1.75			
-93.09	106														
	107		Grades with trace SAND.												
-95.09	108				U35		150 psi	88							
	109									44.4	111	PP = 1.05			PI, LL, C
-97.09	110														
	111														
-99.09	112				U36		125 psi	63							
	113														
-101.09	114									44.9	111.1	UU = 1.51			PI, LL, C
	115											PP =			

(continued)

Department of Transportation
Division of Engineering Services
Geotechnical Services

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BORING RECORD				MPTSB-R3
DIST.	COUNTY	ROUTE	POSTMILE	EA
4	S.F.	101	8.3/9.4	163701
PROJECT OR BRIDGE NAME				
Doyle Drive Replacement Project				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
34-0163L	T. Carroll		11-3-08	4 of 6

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY_CALTRANS FORMAT.GLB 11/3/08

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	115		Fat CLAY (CH), very stiff, bluish gray, moist.									1.65			
-103.09	116														
	117														
-105.09	118				U37		100 psi	88							
	119														
-107.09	120		CLAYEY SAND (SC), bluish gray, moist, SAND is fine to medium. [DEEP MARINE SAND]				200 psi								
	121														
-109.09	122		Poorly graded SAND (SP), very dense, dark greenish gray, moist, fine, weakly to moderately cemented, with small pockets of CLAYEY SAND up to 1/8" diameter.												121.5', artesian conditions encountered
	123				U38		150 psi 100 psi	91							
-111.09	124														
	125														
-113.09	126														
	127														
-115.09	128				S39	31 50/4"	50/4"	100							
	129				S40	22 50/ 4.5"	50/ 4.5"	100							
-117.09	130														
	131														Straight drill to 146' for PS Suspension Velocity test
-119.09	132														
	133														
-121.09	134														
	135														
-123.09	136														
	137														
-125.09	138														
	139														
-127.09	140														
	141														
-129.09	142														All cuttings resemble greenish gray sand as in samples at 130'
	143														
-131.09	144														
	145														

(continued)

Department of Transportation
Division of Engineering Services
Geotechnical Services

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PROJECT OR BRIDGE NAME				
Doyle Drive Replacement Project				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
34-0163L	T. Carroll		11-3-08	5 of 6

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY_CALTRANS FORMAT.GLB 11/3/08

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	145														
-133.09	146		Borehole terminated at a depth of 146 feet on 12/10/2007. See Boring Record Legend for soil classification chart and key to test data and sampler type. Notes: (1) On 12/10/2007 downhole geophysical (suspension) logging was performed by GEOVision, Inc. Shearwave velocity logging was performed between 14.76 and 131.23 feet.												
	147														
-135.09	148														
	149														
-137.09	150														
	151														
-139.09	152														
	153														
-141.09	154														
	155														
-143.09	156														
	157														
-145.09	158														
	159														
-147.09	160														
	161														
-149.09	162														
	163														
-151.09	164														
	165														
-153.09	166														
	167														
-155.09	168														
	169														
-157.09	170														
	171														
-159.09	172														
	173														
-161.09	174														
	175														

Department of Transportation
Division of Engineering Services
Geotechnical Services

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PROJECT OR BRIDGE NAME				
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BRIDGE NUMBER	PREPARED BY		DATE	SHEET
34-0163L	T. Carroll		11-3-08	6 of 6

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY_CALTRANS FORMAT.GLB 11/3/08

Figure